UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,934	03/16/2005	Katsumi Kaneko	450100-05168	2376

7590 10/06/2009

William S Frommer
Frommer Lawrence & Haug
745 Fifth Avenue
New York, NY 10151

EXAMINER	
HERNANDEZ, NELSON D	

ART UNIT	PAPER NUMBER
2622	

MAIL DATE	DELIVERY MODE
10/06/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/527,934	KANEKO ET AL.	
	Examiner	Art Unit	
	Nelson D. Hernández Hernández	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *8/18/2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 18, 2009 has been entered.

Response to Amendment

2. The Examiner acknowledges the amended claims filed on July 17, 2009. **Claims 1 and 5** have been amended.

Response to Arguments

3. Applicant's arguments with respect to claims 1 and 5 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asada et al., US 2002/0021364 A1 and Tonomura, JP 11-177930 A in view of Weisgerber, US Patent 5,739,894 and further in view of Chen et al., US Patent 5,453,780.

Regarding claim 1, *Asada et al.* discloses an image pick-up device (*See fig. 8*) comprising:

image signal pick-up means (*Fig. 8: 1*) for picking up an image signal with a varied frame-rate (*With the control of timing using the CCD driver 2 and the drive pulse switching circuit 3 as shown in fig. 8; see explanation of elements 2 and 3 as shown in page 3, ¶ 0040-0043; page 4, ¶ 0055)*);

frame rate conversion means for generating a first image signal, from the variable frame-rate picked-up image signal, with a selected output frame rate (*Note that the camera signal processing circuit 5 changes the frame rate of the image signal generated by the image signal generation means and the reproduced signal converter 25, also changes the frame rate of the image signal reproduced by the signal-recording-and-reproducing means into a display frame rate; see page 3, ¶ 0044-0046; page 4, ¶ 0055-0059*);

signal generation means (*See VCR 24 as shown in fig. 8 and reproduced signal converter 25 as shown in figs. 8-10*) for generating a monitor image signal by using the first image signal (*See page 4, ¶ 0055 – page 5, ¶ 0066*).

Although Asada et al. discloses the concept of converting a received image video from one frame rate to a different frame rate, Asada et al. does not explicitly disclose that the generation of said first image signal, from said variable frame-rate picked-up image signal, with said selected output frame-rate is performed by a frame-addition processing means; frame rate conversion means for converting a frame rate of a second image signal supplied from an external device to the output frame rate of the first image signal; a signal generation means for generating a monitor image signal by using the first image signal and the second image signal; and that the adjustment of the frame rate of the video signals occur based on a synchronization signal.

However, **Tonomura** discloses the concept of converting a video signal from a first frame rate to a second frame rate by performing a frame addition process to the video signal. Tonomura teaches an image pick-up device (*See fig. 1*) comprising:

image signal pick-up means (*CCD 1 as shown in fig. 1*) for picking up an image signal with a varied frame-rate (*See Machine English Translation, page 3, ¶ 0013-0014*);

frame-addition processing means for generating a first image signal, from the variable frame-rate picked-up image signal, with a selected output frame rate *(Tonomura discloses adjusting the image signals captured at different frame rates by extending or compressing the video signal so that the complete video signal has a common frame rate for reproduction. By teaching extending a video signal frame rate (i.e. 0.5X to 1X), Tonomura inherently discloses varying the frame rates of the image signal by performing addition of a number of frames to the signal with a lower frame rate*

to compensate for a desired frame rate i.e. 1X) (*See Machine English Translation, Page 3, ¶ 0013 – page 4, ¶ 0021; page 5, ¶ 0025*); and

signal generation means (*Fig. 1: 6*) for generating a monitor image signal by using the first image signal (*See Machine English Translation, Page 3, ¶ 0013 – page 4, ¶ 0021; page 5, ¶ 0025*). Tonomura further discloses that performing the frame addition process as discussed would improve the image pick-up device by allowing change of rate so that arbitrary field rates can be realized allowing a convenient synchronization between frames (*Machine English Translation, page 3, ¶ 0010; page 5, ¶ 0028*).

Therefore, taking the combined teaching of Asada et al. in view of Tonomura as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of having a frame rate converter capable of either increasing or decreasing the frame rate of the image signal, wherein when increasing the frame rate of the image signal would apply a frame addition processing continuously varying the frame rates of the image signal so that the image signal can be reproduced based on the image signal with the modified frame rate as taught in Tonomura to modify the teaching of Asada et al. by having a frame-addition processing means to perform said generation of said first image signal, from said variable frame-rate picked-up image signal, with said selected output frame-rate is performed, wherein increasing the image signal frame rate is performed by having a frame addition processing continuously varying the frame rates of the image signal from the variable frame-rate picked-up image signal, with a selected output frame-rate to have the modified image signal reproduced on the display. The motivation to do so would have

been to improve the image pick-up device by allowing change of rate so that arbitrary field rates can be realized allowing a convenient synchronization between frames as suggested by Tonomura (*Machine English Translation, page 3, ¶ 0010; page 5, ¶ 0028*).

The combined teaching of Asada et al. in view of Tonomura fails to teach frame rate conversion means for converting a frame rate of a second image signal supplied from an external device to the output frame rate of said first image signal; that the signal generation means for generates said monitor image signal by using said first image signal and the second image signal; and that the adjustment of the frame rate of the video signals occur based on a synchronization signal.

However, **Weisgerber** discloses the concept of having a processor that synchronizes two image signals with different frame rates obtained from external sources (*i.e. camera, computer or optical printer (computer animation) as shown in fig. 4*), wherein video image signals taken at a lower frame rate (*By either a camera, computer or optical printer (computer animation)*) are adjusted to match the frame rate of a video signal obtained at a higher frame rate, wherein the lower frame rate video is adjusted by repeating frames in the video to match the amount of frames in the higher frame rate video (*See figs. 1-3*) for further display of an image composition of both video image signals (*This teaches the concept of generating image signal that is frame synchronized with the image signal of a reference frame rate picked-up image and frame-synchronizing the image signal generated a particular source with the image signal of a different frame-rate picked-up image*) (*Col. 4, line 48 – col. 7, line 8*). This would help smoothing the video image signal at the time of combining the videos since

it would reduce the presence of flicker, motion blur and interpolation of motion that does not appear smooth as suggested by Weisgerber (*Col. 4, lines 47-67*).

Therefore, taking the combined teaching of Asada et al. in view of Tonomura and further in view of Weisgerber as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of generating image signal that is frame synchronized with the image signal of a reference frame rate picked-up image and frame-synchronizing the image signal generated a particular source with the image signal of a different frame-rate picked-up image as taught in Weisgerber to modify the image pick-up device of Asada et al. and Tonomura to include a frame rate conversion means for converting a frame rate of a second image signal supplied from an external device to the output frame rate of said first image signal and to have the signal generation means generating said monitor image signal by using said first image signal and the second image signal as a composite image. The motivation to do so would have been to help smoothing the video image signal at the time of combining the videos since it would reduce the presence of flicker, motion blur and interpolation of motion that does not appear smooth as suggested by Weisgerber (Col. 4, lines 47-67).

The combined teaching of Asada et al. in view of Tonomura and further in view of Weisgerber fails to teach that the adjustment of the frame rate of the video signals occur based on a synchronization signal.

However, **Chen et al.** teaches the concept of having a processing unit (*Multi-Point Control Unit (MCU) as shown in figs. 5 and 6*), wherein a plurality of video signals

having different frame rates are received from different sources and the processing unit polls the frame rate from each of the sources to determine the lowest common frame rate from the sources so that a temporal reference number of a frame is used as a synchronization signal in order to display the received video signals at a single frame rate (*Col. 4, line 44 – col. 6, line 26*). Chen et al. further teaches that this would allow to combine coded multiple video signal inputs in real time and in such a manner that the merged output coded video signal maintains frame synchronization (*Col. 3, lines 12-15*).

Therefore, taking the combined teaching of Asada et al. and Tonomura in view of Weisgerber and further in view of Chen et al. as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of combining a plurality of video signals at different frame rates from different sources based on a synchronization signal as taught by Chen et al. to modify the teaching of Asada et al., Tonomura and Weisgerber to perform the adjustment of the frame rate of the video signals based on a synchronization signal. The motivation to do so would have been to allow to combine coded multiple video signal inputs in real time and in such a manner that the merged output coded video signal maintains frame synchronization as suggested by Chen et al. (*Col. 3, lines 12-15*).

Regarding claim 2, limitations have been discussed and analyzed in claim 1.

Regarding claim 3, the combined teaching of Asada et al. and Tonomura in view of Weisgerber and further in view of Chen et al. as discussed and analyzed in

claim 1 further teaches that said signal generation means uses the first and second image signals to generate, as the monitor image signal, an image signal of an image in which an image based on the first image signal and an image based on the second image signal are mixed (*Weisgerber discloses using the two image video signals from the two sources to create a composite image as shown in figs. 1-3, wherein apportion of one of the video signals is superimposed on to the other video signals; see col. 4, line 48 – col. 5, 5*0). Grounds for rejecting claim 1 apply here.

Regarding claim 4, the combined teaching of Asada et al. and Tonomura in view of Weisgerber and further in view of Chen et al. as discussed and analyzed in claim 1 further teaches that the signal generation means uses the first and second image signals to generate, as the monitor image signal, an image signal of an image in which a part of an image based on the first image signal is replaced by an image based on the second image signal (*Note in Weisgerber, figs. 1-3, the final image output is a combination of a portion of the image signal from one video image signal that replaces a portion of the other image video signal; col. 4, line 48 – col. 5, 50*).

Regarding claim 5, limitations have been discussed and analyzed in claim 1.

Regarding claim 6, limitations have been discussed and analyzed in claim 1.

Regarding claim 7, limitations have been discussed and analyzed in claim 3.

Regarding claim 8, limitations have been discussed and analyzed in claim 4.

Regarding claim 9, the combined teaching of Asada et al. and Tonomura in view of Weisgerber and further in view of Chen et al. as discussed and analyzed in claim 1 further teaches that the external device is either a recording/reproducing device or an input terminal (*See camera, computer or optical printer (computer animation) in Weisgerber, fig. 4*). Grounds for rejecting claim 1 apply here.

Regarding claim 10, limitations have been discussed and analyzed in claim 9.

Regarding claim 11, the combined teaching of Asada et al. and Tonomura in view of Weisgerber and further in view of Chen et al. as discussed and analyzed in claim 1 further teaches an input terminal (*The system in Weisgerber inherently discloses an input terminal to receive the second video signal. The combined teaching of Asada et al. in view of Tonomura and further in view of Weisgerber as discussed and analyzed in claim 1 would suggest the modification of the Asada et al. teaching to include an input terminal to receive the second video signal. See grounds for rejection in claim 1*), a recording/reproducing means (*VCR Unit 24 in Asada et al.; page 4, ¶ 0055 – page 5, ¶ 0066*) for recording and reproducing the first image signal, and an input selection means for selecting the second image from the input terminal or the recording/reproducing means (*Weisgerber as applied to claim 1 suggest the inclusion of a selection means to select a first image video signal or a second video signal (Col. 4,*

line 48 – col. 7, line 8), that when combined with the teaching of Asada et al and Tonomura would provide the image pick-up device with a selection means for selecting either one of the recording/reproduction means or the input terminal). Grounds for rejecting claim 1 apply here.

Regarding claim 12, limitations have been discussed and analyzed in claim 11.

Regarding claim 13, the combined teaching of Asada et al. and Tonomura in view of Weisgerber and further in view of Chen et al. as discussed and analyzed in claims 1 and 11 further teaches that the input selection means inputs the selected second image signal to the frame rate conversation means (*As shown in Weisgerber, the image video signal from the external device with the slow frame rate is input to change its frame rate to match with a second image video signal. See figs. 1-3; col. 4, line 48 – col. 7, line 8*). Grounds for rejecting claims 1 and 11 apply here.

Regarding claim 14, limitations have been discussed and analyzed in claim 13.

Regarding claim 15, the combined teaching of Asada et al. and Tonomura in view of Weisgerber and further in view of Chen et al. as discussed and analyzed in claim 1 further teaches that the signal generation means is connected to the frame-addition processing means and the frame rate conversion means (*the teaching of Tonomura (See Machine English Translation, Page 3, ¶ 0013 – page 4, ¶ 0021; page 5,*

¶ *0025) and Weisgerber (See figs. 1-3; col. 4, line 48 – col. 7, line 8) as applied to claim 1 suggest the inclusion of the frame-addition processing means and the frame rate conversion means connected to the signal generation means to produce the first signal with the frame-rate converted and the second image video signal for further output a video signal with a combination of the two image video signals*). Grounds for rejecting claim 1 apply here.

Regarding claim 16, limitations have been discussed and analyzed in claim 15.\

Regarding claim 17, limitations have been discussed and analyzed in claim 3.

Regarding claim 18, the combined teaching of Asada et al. and Tonomura in view of Weisgerber and further in view of Chen et al. as discussed and analyzed in claim 1 further teaches that the signal generation means generated the monitor image signal using images from the first and second image signals simultaneously on one screen (*Weisgerber teaches that the two image signals are combined an displayed simultaneously on a single screen. See figs. 1-3; col. 4, line 48 – col. 7, line 8*). Grounds for rejecting claim 1 apply here.

Regarding claim 19, limitations have been discussed and analyzed in claim 18.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernández Hernández whose telephone number is (571)272-7311. The examiner can normally be reached on 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nelson D. Hernández Hernández/
Examiner, Art Unit 2622
September 30, 2009